

PCT/US94/02332 filed March 4, 1994 (designating the US) which is a continuation-in-part of copending application Serial No. 08/026,393 filed March 4, 1993, which issued as U.S. Patent No. 5,612,487, which itself is a continuation-in-part of Serial No. 07/750,049 filed August 26, 1991 (now abandoned). This application is also a continuation-in-part of application Serial No. 08/156,508 filed November 23, 1993, which issued as U.S. Patent No. 5,484,719 January 16, 1996. Applicants incorporate herein by reference the specification of each of the above-mentioned applications.--

IN THE CLAIMS

Please cancel claims 73-100.

Please add the following new claims 101-115:

101.

A vector for transforming a plant comprising:
a DNA sequence encoding a recombinant viral antigen protein, said protein being
antigenic to an animal; and
a plant functional promoter operably linked to said DNA sequence which directs
expression of said protein in said plant.

102.

The vector of claim 101 wherein said vector is a plasmid vector.

103.

The vector of claim 101 wherein said vector is a viral vector.

104.

The vector of claim 101 wherein said antigen protein is from TGEV.

105.

A plasmid vector for transforming a plant comprising:
A DNA sequence encoding a recombinant viral antigen protein, said protein being
antigenic to a human or an animal; and
a plant-functional promoter operably linked to said DNA sequence which directs the
expression of said protein in said plant.

106.

The vector of claim 101 wherein said expression is preferentially directed to the
seed of said plant.

107.

The vector of claim 101 wherein said vector is capable of achieving expression
levels of 0.1% total soluble protein.

108.

The vector of claim 101 wherein said vector is capable of achieving expression
levels of 0.05% total soluble protein.

109.

The vector of claim 101 wherein said vector is capable of achieving expression
levels of 0.03% total soluble protein.

110.

The plasmid vector of claim 101 wherein said protein is chimeric by being fused
to another peptide, polypeptide or protein such that expression of the protein is enhanced
over levels of expression in absence of said fusion.

111.

The plasmid vector of claim 101 further comprising a translational enhancing
sequence.

112.

The plasmid vector of claim 101 wherein the DNA encoding the viral antigen protein is truncated from the native wild type DNA sequence encoding said protein.

113.

The plasmid vector of claim 101 wherein the promoter preferentially expresses the viral antigen protein in an edible portion of the plant.

114.

The vector of claim 101 wherein said viral antigen protein is from TGEV.

115.

The vector of claim 101 wherein said vector directs expression to the seed of said plant.